AMENDMENTS TO THE SPECIFICATION

Please amend paragraph **[0320]** as follows:

[0320] It is noted that a contraction of the FBC around the device as a whole produces downward forces (not shown) on the device, which can be helpful in reducing motion artifacts such as described with reference to copending U.S. Patent Application ~~—/——,——~~ 10/646,333 filed on ~~even date herewith~~ August 22, 2003, and entitled "OPTIMIZED SENSOR GEOMETRY FOR AN IMPLANTABLE GLUCOSE SENSOR," which is incorporated herein in its entirety by reference. However, the architecture of the first domain described herein, including the interconnected cavities and solid portion, are advantageous because the contractile forces caused by the downward tissue contracture that can otherwise cause cells to flatten against the device and occlude the transport of analytes, is instead translated to, disrupted by, and/or counteracted by the forces 41 that contract around the solid portions 36 (e.g., throughout the interconnected cavities 38) away from the device. That is, the architecture of the solid portions 36 and cavities 38 of the first domain cause contractile forces 41 to disperse away from the interface between the first domain 32 and second domain 34. Without the organized contracture of fibrous tissue toward the tissue-device interface typically found in a FBC, macrophages and foreign body giant cells substantially do not form a monolayer of cohesive cells (i.e., barrier cell layer) and therefore the transport of molecules across the second domain and/or membrane is substantially not blocked (indicated by free transport of analyte 33 through the first and second domains in Fig. 3A).

Please amend paragraph **[0369]** as follows:

[0369] The vertical axis represents sensor function expressed herein as the sensor signal strength with respect to glucose concentration (*i.e.*, sensitivity or slope), which reflects biointerface integration *in vivo*. The horizontal axis represents time in weeks. It is noted that at the six-week point, the sensor functionality of the sensor with the prior art membrane is substantially similar to sensor functionality of the membrane of the preferred embodiments. At

the 26-week point, the porous silicone biointerface sensor experienced a temporary, slight decline in slope, however variability in slope is expected *in vivo* due to normal biological and physiological factors known in the art. Calibration of the sensor provides compensation for sensitivity changes, including those sensitivity changes seen in the porous silicone biointerface sensor data of Fig. 11. Calibration of sensors is described in more detail in copending patent application number ~~—/——,——~~ 10/633,367 filed August 1, 2003 and entitled, "SYSTEM AND METHODS FOR PROCESSING ANALYTE SENSOR DATA," which is incorporated herein by reference in its entirety. In contrast to the porous silicone biointerface sensor, the prior art ePTFE biointerface sensor experienced a distinct and continual decline in slope after the 26-week point, which resulted in sensitivities below the necessary (e.g., functional) threshold and therefore loss of sensor function.